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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,191	09/09/2004	Andrea Giraldo	NL 020190	2086

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EXAMINER

SHENG, TOM V

ART UNIT PAPER NUMBER

2629

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/507,191	GIRALDO ET AL.	
	Examiner	Art Unit	
	Tom V. Sheng	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 and 28 is/are allowed.
- 6) ☒ Claim(s) 16,19,20,26 and 29 is/are rejected.
- 7) ☒ Claim(s) 17,18,21-25 and 30-35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 16 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Kubota et al. (US 5,748,165), hereinafter Kubota.

As for claim 16 and associated claim 29, Kubota teaches a display device comprising:

an array of pixels (pixels each with a switching transistor SW and liquid crystal element Cl as shown; fig. 11),

a column driver (Data Line Driving Circuit SD1 and SD2) that is configured to drive columns of the array via a plurality of column outputs (coupled to drive the columns of pixels via switching circuits SEL as shown), and

a switch element (switching circuits SEL) that is configured to selectively route each column output of the plurality of column outputs to one of two corresponding columns of the array (each switching circuit SEL is connected to one column output of either driving circuit SD1 or SD2 and is controlled to switch to/drive one of two corresponding columns - for example, SLi or SLi+1; see column 19, lines 12-25). Alternatively, see fig. 20.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 19, 20, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota.

As for claim 19, Kubota further teaches wherein the switch element (as analog switch 8/9) includes a pair of complementary transistors (transistors 22 and 23) coupled to each column output (input of transistor 21),

a first transistor (transistor 22) of each pair being coupled to a first column (column SL_i) of the two corresponding columns of the array, a second transistor (transistor 23) of each pair being coupled to a second column (column SL_i+1) of the two corresponding columns of the array.

Kubota further teaches using two control signals FR1 and FR2 to control the first and second transistors respectively to route each column output to the respective columns (see column 24, lines 7-19). However, Kubota does not teach a common control signal controls each of the first and second transistors of each pair to route each column output to one of the first and second corresponding columns.

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On the other hand, since the two transistors 22 and 23 are both n-channel type and the application of the field changeover signals FR1 and FR2 is intended to apply alternating polarity to the columns, one of ordinary skill in the art would clearly recognize that the same effect can be achieved by using one p-channel and one n-channel type transistors and be both driven by an alternating common control signal. Therefore, it would have obvious to one of ordinary skill in the art to modify the analog switch 8/9 as such because only one control line would be required for the alternating switching, resulting in a more compact layout.

As for claim 20, though not intended, Kubota could nonetheless group/call a pixel on column SLi and another pixel on column SLi+1 as sub-pixels and regard the two adjacent sub-pixels as one pixel.

As for claim 26, the arrangement of using rows for alternative polarity is similarly taught by Kubota in fig. 9 and column 18, lines 25-33.

Allowable Subject Matter

5. Claims 27 and 28 are allowed.
6. Claims 17, 18, 21-25 and 30-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. The following is a statement of reasons for the indication of allowable subject matter: none of the prior arts teaches the limitations,

“the columns ... the column outputs ... the switch elements is configured to selectively route each (j) column output to one of (j) and (m-j) columns, where j

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ranges from 0 to m" of claim 17;

"the array of pixels ... the column driver provides a center output that bypasses the switch element and is coupled to a center column of the array of pixels" of claim 18,

"the first and second sub-pixels of each pixel include reflecting layers on opposite side of the pixel" of claim 21,

"the first and second sub-pixels of each pixel include absorbing layers on opposite side of the pixel" of claim 22,

"the first sub-pixels are configured to be viewable from a first direction and the second sub-pixels are configured to be viewable from a second direction that is substantially opposite the first direction" of claim 23,

"the display device is viewable ... the switch element is configured to be controlled based on whether the display device is being viewed from the first direction or the second direction" of claim 25,

"the columns ... the outputs ... each pair of (j) and (m-j) columns are associated with each (j) output, where (j) ranges from 0 to m" of claim 30,

"the display device ... a center data signal is routed to a center column of the display device" of claim 31,

"providing a control signal ... the display device is viewable ... the control signal is provided based on a direction of viewing the display device" of claim 32,

"each column includes ... the first sub-pixels are configured ... from a second direction that is substantially opposite the first direction" of claim 33.

Claim 24 is dependent on claim 23 and claims 34, 35 are dependent on claim 33.

Response to Arguments

8. Applicant's arguments with respect to claims 16-35 have been considered but are moot in view of the new ground(s) of rejection, since original claims 1-15 are cancelled with claims 16-35 newly added in the amendment.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tom Sheng

AMR A. AWAD
SUPERVISORY PATENT EXAMINER

